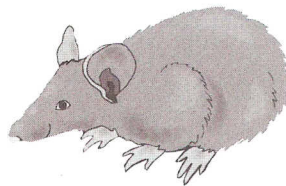


## Species Evolve Over Time

**Q1** Complete these sentences by choosing the correct words from inside the brackets.

- a) The frequency of alleles which produce useful characteristics (**decreases** / **increases**) in a population.
- b) Factors like disease cause a population to (**decrease** / **increase**).
- c) Organisms that survive best are those that are (**best suited to their environment** / **strongest**).
- d) Survivors pass their genes on to their (**offspring** / **partner**).
- e) Natural selection is the process by which (**evolution** / **mutation**) takes place.
- f) In order for rapid changes to occur in the characteristics of a population, (**mutation** / **predation**) must take place.

**Q2** Warfarin can be used as a poison to control rats. It was first used for this purpose in 1950. In 1958, a number of rats were discovered to be resistant to warfarin, a characteristic that was due to a gene. Resistance was inherited, and over the following years the number of resistant rats increased.



The increase in warfarin resistance in rats was due to natural selection. Explain **how** this happened.

**Q3** Place these sentences in order to explain the evolution of the giraffe.

- ~ Over **many generations**, giraffes developed longer and longer necks.
- ~ **All** giraffes had fairly **short** necks.
- ~ **Natural selection** resulted in longer necked offspring surviving.
- ~ The giraffe population had some individuals whose necks **varied** a bit in length.
- ~ **Longer-necked** giraffes had an advantage in the competition for food.